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A periodicals use study was conducted in the Medical Library of Children's Hospital, a pediatric teaching hospital, during the six month period from September 1, 1967 to February 29, 1968. Results of the study showed that the three kinds of periodical use--circulation, reading room use, and interlibrary loan--have similar but not identical patterns within the same library. In each kind of use reader interest is focused on recently published material. Less than 5 per cent of periodical material used was more than 15 years old at the time of use. Periodicals published in the most recent five year period had the heaviest use. Data collected during the study were consistent enough to provide a basis for administrative and planning decisions for the library in which the study was performed. The collected data appear in appended tables. (Author/CC)

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WAYNE STATE UNIVERSITY
School of Medicine
Library
Biomedical Information Service Center

Report
No. 48

A Periodical Use Study at Children's Hospital of Michigan *

by
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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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INTRODUCTION

A hospital librarian knows as part of the folklore of the trade that use of periodical publications declines sharply as the age of the periodical increases. Since storage space in hospital libraries is never limitless, one of the hospital librarian's most important decisions concerns the maximum retention period of periodicals which can be justified by use. If such a decision is to be based on more than a strong visceral feeling that old periodicals are not used much, the hospital librarian must conduct a use study. Results of the study, storage space available, and the ease with which material can be obtained on inter-library loan influence the selection of a retention period.

A use study was conducted in the Medical Library of Children's Hospital during the six month period September 1, 1967 to February 29, 1968. Storage space was almost filled and a move to a new hospital building was expected within two years. If retention of some older periodicals was not warranted by use, it seemed an appropriate time to dispose of them. The hospital is located in a metropolitan area where all volumes which might be discarded are held by a medical school library and several hospital libraries.

The Medical Library had kept records of the publication dates of periodicals requested on inter-library loan for three years prior to the use study of its own periodicals. Examination of this data showed that 90 per cent of requests were for periodicals published within 15 years of the date of the request. The remaining ten percent were scattered over another 30 years. The feeling, for which there was no documentation, was that the use pattern of the Library's own periodicals was probably similar.

METHODS AND DEFINITIONS

Throughout the study the term "periodical" is understood to include serial publications which appear annually or less frequently as well as monthlies, weeklies, etc. Abstract journals and indexes are not within the scope of the study.

To determine what portion, chronologically speaking, of the Medical Library's periodical collection was most used, periodical circulation data were analysed by the year of publication of circulated volumes. After the study had been in progress for two months it was realized that more periodicals were used in the Reading Room than were checked out. During the succeeding four months room use figures were also recorded and examined. In addition, inter-library loan request data were analysed by year of publication of volumes requested to see if a similar chronological pattern prevailed.

For each month of the study a Circulation Data Sheet and a Room Use Data Sheet were made up and attached to a clipboard. Periodical circulation cards were examined at the end of each day and entries were made on

the Circulation Data Sheet. Room use figures were entered on the appropriate sheet three or four times a day when tables were cleared of books. The Library's open shelf policy made it impossible to record all periodicals used within the Library since readers, although encouraged not to, often replaced volumes on the shelves themselves. However, it is certain that use of periodicals published prior to 1951 was recorded since they were kept in a storeroom outside the Library and had to be requested from the Librarian.

At the end of each month interlibrary loan requests were examined and publication dates of periodicals requested were recorded on a Data Sheet.

Each month circulation, room use and interlibrary loan request figures from the Data Sheets were totaled for the current year, for the immediately preceding four years, and for earlier years in five year blocks. Percentages of total circulation for each time period were calculated.

ANALYSIS OF DATA

Chi-square was used to test the sampling distribution among the areas in which data were collected: circulation, room use, and inter-library loan use. Although the three sets of data were consistent within themselves, they were independent of each other; that is, from the samples taken, knowing the circulation use does not provide a means to estimate the room use of inter-library loan use. Chi-square was also used to test the null hypothesis that the date of all materials used would be distributed in the following ratio:

$$N = .4\,N_1 + .34\,N_2 + .15\,N_3 + .06\,N_4 + .03\,N_5 + .02\,N_6$$

Where N = total use

N_1 = Current year

N_2 = Four year period previous to current year

N_3 = Five year period beginning 10 years from current year

N_4 = Five year period beginning 15 years from current year

N_5 = Five year period beginning 20 years from current year

N_6 = For all material dates 20 years before current year

The null hypothesis can be accepted as true if data of three months are used.

FINDINGS AND DISCUSSION

During the study periodicals published in the most recent five years accounted for approximately 75 per cent of reading room and circulation use and for slightly less than 50 per cent of periodicals requested on inter-library loan. Ninety-five percent of the periodicals used by

patrons of Children's Hospital Medical Library were published within the last 15 years. This was true whether they used material held by their own hospital library or requested it on inter-library loan which theoretically makes the entire published scientific record available (Tables I and II). At the time of the study the Medical Library contained 3049 periodical volumes, of which 1253 volumes were over 15 years old. Therefore, 41 per cent of the Library's periodical shelf space was occupied by a part of the collection which supplied an average of less than five per cent of the periodicals used each month.*

While all three areas of use, circulation, room use, and inter-library loan, reflect the readers' preference for recently published material, inspection of month by month use patterns reveal that somewhat different patterns are appropriate to each kind of use (See Appendixes I-III). Some of the factors which create these differences are relatively obvious. Room use, for example, consistently makes the heaviest demand upon periodicals published during the current year. At least two things favor room use of current material:

1. Restrictions are placed against the circulation of the most recent issue of certain periodicals.

2. A reader comes to the Library to browse through current periodicals which he does not receive personally. While he may examine ten such periodicals in the Library, he signs out only the issue which contains an article specially pertinent to his work.

As for inter-library loan, the browsing use of literature is obviously not possible. Inter-library loan use of current year material is consistently small, which is understandable in the light of the most frequently cited sources of inter-library loan request references: indexing and abstracting tools and the bibliographies of published papers.

SUMMARY AND CONCLUSIONS

A periodical use study has been conducted in the medical library of a pediatric teaching hospital. Results of the study showed that the three kinds of periodical use, circulat reading room use, and inter-library loan have similar but not identical patterns within the same li-

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* Presentation of these data to the Library Committee resulted in a decision to dispose of periodicals published more than 15 years ago. This was a generous decision since periodicals published from 10 to 15 years ago supplied less than three per cent of material used during the study. Retention of 15 rather than 10 year periodical runs was reassuring to the Library Committee, however.

brary. In each kind of use reader interest is focused on recently published material; less than five per cent of periodical material used was more than 15 years old at the time of use. Periodicals published in the most recent five year period have the heaviest use. Data collected during the study were consistent enough to provide a basis for administrative and planning decisions for the library in which the study was performed. In order to generalize on such an experience it would be necessary to have data collected in similar studies in other hospital environments. Hospital library literature at present lacks such studies.

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Table I

Comparison of Circulation and Room Use
of Periodicals
November 1967 - February 1968

Year	Circulation	Circulation Cumulation	Percentage	Percentage Cumulation	Room Use	Room Use Cumulation	Percentage	Percentage Cumulation
1967-68	249	249	39.40	39.40	481	481	44.41	44.41
1963-66	218	467	34.49	73.89	370	851	34.17	78 58
1958-62	108	575	17.09	90.98	145	996	13.40	91.98
1953-57	37	612	5.86	96.84	49	1045	4.52	96.50
1948-52	15	627	2.37	99.21	26	1071	2.40	98.90
1943-47	4	631	.63	99.84	4	1075	.36	99.26
1938-42	1	632	.16	100.00	7	1082	.65	99 91
1933-37	-	632	-	100.00	1	1083	.09	100.00

Table II

Total Periodical Use

Circulation, Room Use, Inter-library Loan

November 1967 - February 1968

Year	Nov.	Dec.	Jan.	Feb.	Total	Cumulation	Percentage	Cumulation
1967-68	222	164	186	181	753	753	39.67	39.67
1963-66	156	139	160	200	655	1408	34.51	74.18
1958-62	75	58	58	101	292	1700	15.38	89.56
1953-57	30	23	15	45	113	1813	5.95	95.51
1948-52	12	10	13	16	51	1864	2.73	98.24
1943-47	3	3	3	1	10	1874	.52	98.76
1938-42	2	3	3	4	12	1886	.63	99.39
1933-37	-	1	4	1	6	1892	.30	99.69
1928-32	-	2	-	-	2	1894	.10	99.79
1923-27	1	1	1	-	3	1897	.16	99.95
1918-22	-	-	-	-	-	1897	-	99.95
1913-17	-	-	-	-	-	1897	-	99.95
1908-12	1	-	-	-	1	1898	.05	100.00

APPENDIX I

Periocical Circulation

September 1967 - February 1968

	Year	Number of Periodicals Circulated	Cumulation	Percentage	Percentage Cumulation
September 1967	1967	64	64	43.54	43.54
	1963-66	48	112	32.65	76.19
	1958-62	17	129	11.57	87.76
	1953-57	4	133	2.72	90.48
	1948-52	6	139	4.08	94.56
	1943-47	6	145	4.08	98.64
	1941-42	2	147	1.36	100.00
October 1967	1967	67	67	45.89	45.89
	1963-66	55	122	37.67	83.56
	1958-62	13	135	8.91	92.47
	1953-57	7	142	4.79	97.26
	1948-52	1	143	.68	97.94
	1943-47	3	146	2.06	100.00
November 1967	1967	88	88	41.51	41.51
	1963-66	62	150	29.25	70.76
	1958-62	41	191	19.34	90.10
	1953-57	12	203	5.66	95.76
	1948-52	6	209	2.83	98.59
	1943-47	2	211	.94	99.53
	1938-42	1	212	.47	100.00
December 1967	1967	57	57	47.11	47.11
	1963-66	41	98	33.88	80.99
	1958-62	14	112	11.57	92.56
	1953-57	6	118	4.96	97.52
	1948-52	2	120	1.65	99.17
	1943-47	1	121	.83	100.00
January 1968	1967-68	49	49	35.00	35.00
	1963-66	54	103	38.57	73.57
	1958-62	24	127	17.14	90.71
	1953-57	6	133	4.29	95.00
	1948-52	6	139	4.29	99.29
	1943-47	1	140	.71	100.00
February 1968	1967-68	55	55	34.59	34.59
	1963-66	61	116	38.36	72.95
	1958-62	29	145	18.24	91.19
	1953-57	13	158	8.18	99.37
	1947-52	1	159	.63	100.00

APPENDIX II

Use of Periodicals in Reading Room
November 1967 - February 1968

	Year	Number of Periodicals Used in Reading Room	Cumulation	Percentage	Percentage Cumulation
November 1967	1967	129	129	50.99	50.99
	1963-66	82	211	32.42	83.41
	1958-62	27	238	10.67	94.08
	1953-57	9	247	3.56	97.64
	1948-52	4	251	1.58	99.22
	1943-47	1	252	.39	99.61
	1938-42	1	253	.39	100.00
December 1967	1967	100	100	40.49	40.49
	1963-66	88	188	35.62	76.11
	1958-62	35	223	14.17	90.28
	1953-57	11	234	4.45	94.73
	1948-52	8	242	3.24	97.97
	1943-47	1	243	.41	98.38
	1938-42	3	246	1.21	99.59
	1933-37	1	247	.41	100.00
January 1968	1967-68	128	128	53.55	53.55
	1963-66	85	213	35.56	89.11
	1958-62	15	228	6.28	95.39
	1953-57	7	235	2.93	98.32
	1948-52	2	237	.84	99.16
	1943-47	1	238	.42	99.58
	1938-42	1	239	.42	100.00
February 1968	1967-68	124	124	36.05	36.05
	1963-66	115	239	33.43	69.48
	1958-62	68	307	19.77	89.25
	1953-57	22	329	6.39	95.64
	1948-52	12	341	3.49	99.13
	1943-47	1	342	.29	99.42
	1938-42	2	344	.58	100.00

APPENDIX III

Periodical Inter-library Loan Requests
September 1967 - February 1968

	Year	Number of Periodicals Requested	Cumulation	Percentage	Percentage Cumulation
September 1967	1967	6	6	11.32	11.32
	1963-66	16	22	30.19	41.51
	1958-62	14	36	26.41	67.92
	1953-57	12	48	22.64	90.56
	1948-52	4	52	7.56	98.12
	1943-47	1	53	1.88	100.00
October 1967	1967	4	4	6.90	6.90
	1963-66	30	34	51.73	58.63
	1958-62	17	51	29.31	87.94
	1953-57	5	56	8.62	96.56
	1948-52	1	57	1.72	98.28
	1943-47	-	57	-	98.28
	1938-42	-	57	-	98.28
	1933-37	-	57	-	98.28
	1928-32	1	58	1.72	100.00
November 1967	1967	5	5	13.51	13.51
	1963-66	12	17	32.43	45.94
	1958-62	7	24	18.92	64.86
	1953-57	9	33	24.33	89.19
	1948-52	2	35	5.41	94.60
	1943-47	-	35	-	94.60
	1938-42	-	35	-	94.60
	1933-37	-	35	-	94.60
	1928-32	-	35	-	94.60
	1923-27	1	36	2.70	97.30
	1918-22	-	36	-	97.30
	1913-17	-	36	-	97.30
	1908-12	1	37	2.70	100.00
December 1967	1967	7	7	19.44	19.44
	1963-66	10	17	27.78	47.22
	1958-62	9	26	25.00	72.22
	1953-57	6	32	16.66	88.88
	1948-52	-	32	-	88.88
	1943-47	1	33	2.78	91.66
	1938-42	-	33	-	91.66
	1933-37	-	33	-	91.66
	1928-32	2	35	5.56	97.22
	1923-27	1	36	2.78	100.00

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APPENDIX III - Con't

	Year	Number of Periodicals Requested	Cumulation	Percentage	Percentage Cumulation
January 1968	1967-68	9	9	14.06	14.06
	1963-66	21	30	32.81	46.87
	1958-62	19	49	29.69	76.56
	1953-57	2	51	3.13	79.69
	1948-52	5	56	7.81	87.50
	1943-47	1	57	1.56	89.06
	1938-42	2	59	3.13	92.19
	1933-37	4	63	6.25	98.44
	1928-32	-	63	-	98.44
	1923-27	1	64	1.56	100.00
February 1968	1967-68	2	2	4.35	4.35
	1963-66	24	26	52.17	56.52
	1958-62	4	30	8.70	65.22
	1953-57	10	40	21.74	86.96
	1948-52	3	43	6.52	93.48
	1943-47	-	43	-	93.48
	1938-42	2	45	4.35	97.83
	1933-37	1	46	2.17	100.00